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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,770	04/26/2000	Martin W. Allen	SP00-118	1532

7590

01/10/2005

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EXAMINER

HOFFMANN, JOHN M

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/558,770

Applicant(s)

ALLEN ET AL.

Examiner

John Hoffmann

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 12-14, 22, 23 and 100-102 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 12-14, 22-23 and 100-102 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6, 12-14 and 22-23 and 100-102 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 has no explicit step of making a fiber – although the preamble indicates that a fiber is made. Various dependent claims indicate that a fiber is drawn. It is unclear whether claim 1 actually requires the making of the fiber, or if such is not required until the step is actually mentioned in the claim. Furthermore, if the claim 1 preamble does not breathe life and meaning into the claim – it makes it confusing as to whether the preambles of the other claims also do not breathe life and meaning into the claims.

Claim 3 refers to having a particular dispersion when the intermediate glass object is used to make a fiber: this limitation is used to further define the step of reducing. It does not explicitly limit the step of drawing the fiber – nor does it explicitly limit the fiber which is drawn. However, it is very possible that it implicitly limits drawing step and/or the fiber drawn. And/or it possible that applicant \*intended\* such to require the final fiber has such a polarization. Regardless, one of ordinary skill would not be

Art Unit: 1731

ascertain what the claim actually requires – and thus places an unreasonable burden on the public. For example, one can use applicant's preform in a poorly designed drawing process, so that it does not have the low dispersion. In other words, there is confusing antecedent basis for the step "to make said single mode optical fiber" line 7, claim 3 : it is unclear if it is in addition to the "for making" of line 3, and/or the implicit making of the fiber of the preamble.

The term "internal wall" is indefinite as to its meaning. Applicant indicates that the tube is a wall. Examiner is not so sure such is true. But if it is a wall, it is unclear as to why it is an internal wall. The description of the invention is lacking to a degree that one would not be able to reasonably tell if a particular tube wall is an internal wall or just a plain, non-internal wall.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3-5 and 100-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi 6076376 alone or in view of Glodis 6105396.

It is noted that there is no order to the claimed steps.

Col. 8, lines 48-55 of Onishi discloses that the preform is made by MCVD or the rod-in-tube method. Each of these methods requires the provision of a glass object

Art Unit: 1731

having the centerline hole. The hole is removed by heating in both the MCVD and the RIT method: it occurs either prior to or during drawing. The diameter is reduced by at least  $1/3$  during the drawing (see figure 6).

There is no indication of a pressure in the void. It would have been obvious to perform the MCVD or RIT process at a pressure of at least atmospheric, so that one does not have to bother with a vacuum system. This would be greater than 500 torr.

Glodis is cited as teaching to keep a pressure in an MCVD tube to prevent a change in diameter (col. 5, lines 45-47). It would have been obvious to use a pressure at least equal to atmospheric pressure (in the Onishi MCVD process), to prevent atmospheric pressure from collapsing the tube. One of ordinary skill understands that there has to be a balance of pressures to prevent the tube from shrinking. It is deemed that the collapsing is sufficiently uniform and symmetrical for the Onishi and/or Glodis desired result.

Claim 3: it is deemed that both pressures (i.e. externally and internally) applied are "sufficient" to meet the stated condition. Figure 12 of Onishi clearly shows that that fiber has the low dispersion values for at least some locations. Also, other locations have unspun lengths: the spinning oscillates between positive locations and negative locations. And in-between those two lengths, there are locations where the spin is zero.

Alternatively: the Onishi fiber is always in a spun state - it is never in an "unspun" state. The claim limitations only pertains unspun fibers - there is no dispersion requirement which must be met for spun fibers. In other words, the Office is interpreting

Art Unit: 1731

the claim to be: "if the fiber is unspun, then...." The claim does not limit spun fibers.

The claims does not require the creation of an unspun fiber.

Claims 4-5: Onishi figure 12 show dispersions less than the 0.05 value.

Claim 100 is clearly met with atmospheric pressure.

Claims 101-102: It is deemed that preventing a change in diameter will result in very small change in dimension. It would have been obvious to make keep the change as small as possible

Claims 1,2, 6, 22 –23 and 100-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer REISSUE 28,028.

Figure 1 shoes the intermediate glass object with a hole. The heating and reducing are clearly represented. It is deemed that the reducing is done uniformly and symmetrically to the degree that is sufficient for the Maurer purpose. Also, see col. 3, lines 30-32 and col. 6, lines 13-15. Alternatively, it would have been obvious to do the drawing as uniformly and as symmetrically as possible because variations in the core diameter might significantly effect the transmission characteristics as Maurer teaches.

There is no indication of a pressure in the void. There is no indication the process has the bore exposed to atmospheric pressure. It would have been obvious to perform the process at a pressure of at least atmospheric, so that one does not have to bother with a vacuum system.

Claim 2 is clearly met.

Art Unit: 1731

Claim 6: First it is noted that from instant figure 5, plug 66, appears not to be a separate piece that is inserted into the tube, rather it appears to be a heat-sealed section of the inner glass tube. Examiner notes this as an indication that Applicant does not use the term "plug" in any narrow sense. Maurer does not teach any plugging, however, col. 4, lines 71-72 and col. 7, lines 34-37 disclose using pure materials. IT would have been obvious to plug or cap the tube so as to prevent any material from getting into the tube – whenever the tube is not being worked on. It is deemed that any capping, plugging, etc. to keep out contaminants reads on the instant claims.

Claim 22: see figure 3: it would have been obvious to maintain the circular symmetry shown in figure 3, because there is no reason to change it, and because Maurer teaches variations are undesirable

Claim 23: it would have been obvious to have the fibers as symmetrical as possible, because variations are undesirable.

Claim 100 is clearly met with atmospheric pressure.

Claims 101-102: It is deemed that preventing a change in diameter will result in very small change in dimension. It would have been obvious to make keep the change as small as possible. Furthermore, as per col. 7, lines 14-16, there is no layer between 0.08 and 0.15 microns. It is just a solid core within that range. The claim is only directed to the invention that has a layer there and does not limit a method which lacks a layer there.

Claims 1-2 and 6 and 100-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey 5152818.

Figures 9-10 and 14 of Berkey show the invention. Figure 10: each of feature 80 corresponds to a hole. Every cylindrical hole has a centerline: therefore each cylindrical hole has a centerline. A centerline (by Examiner's dictionary) is " a real or imaginary line that is equidistant from the surface or sides of something. " Figure 4 represent the heating to reduce the outside diameter. It would have been obvious to have the holes close uniformly and symmetrically along the centerline axis, so that the fiber will have the same cross section at every location along its length. It is noted the claims do not limit what sort of symmetry must exist - and if it is uniform with respect to time, length, diameter or what.

Berkey does not actually mention the pressure. From col. 7, lines 61-65: it is clear that no vacuum is necessary. It would have been obvious to use atmospheric pressure or higher because that is the only other choice when one does not have a vacuum. The claim does not limit when there must be the pressure.

Claim 2: it would have been obvious to have the hole completely closed because figure 10 shows no opening, and there in no reason to have an opening in the final fiber.

Claim 6: figure 14 shows that each centerline hole is plugged with 70: see col. 8, line 49.

Claim 100 is clearly met with atmospheric pressure.

Claims 101-102: It is deemed that preventing a change in diameter will result in very small change in dimension. It would have been obvious to make keep the change



Art Unit: 1731

as small as possible. Furthermore, as per col. 13, lines 56-57, there is no layer between 0.08 and 0.15 microns. It is just a solid core within that range. The claim is only directed to the invention that has a layer there and does not limit a method which lacks a layer there.

Claims 1-2, 12-14, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey 5917109.

Berkey clearly has a step of providing the glass object, the heating to reduce the diameter and closing of the hole. Berkey does not disclose the claimed pressure, but discloses use of a gas in the bore. It would have been obvious to use pressures near atmospheric pressure, because no pressure is indicated and because such would not require any extra high or low pressure apparatuses or techniques. See above for as how the claim limitations are interpreted.

AS to claim 2, it would have been obvious to have the bore close completely, because any openings may interfere with the optical signal and/or strength of the fiber.

Claims 12-13: see col, 4, line 46 to col. 5, line 32.

Claims 14 are met as per col. 5, lines 51-52.

Claim 22: see figure 6: it would have been obvious to maintain the circular symmetry shown in figure 6, because there is no reason to change it, and because if it changes, it would not result in the profile of figures 7 or 8.

Claim 23: it would have been obvious to have the fibers as symmetrical as possible, so that the fibers possess the desired profile of figure 7 or 8 at every position.

### ***Response to Arguments***

Applicant's arguments filed 12/01/04 have been fully considered but they are not persuasive.

IT is argued that one would not use atmospheric pressure in the Onishi process, because other prior art methods use a vacuum. The relevance of this is not understood. The fact that some prior art inventors use a vacuum is not evidence that one must use a vacuum.

It is argued that Onishi has no teaching of a symmetric hole closure. The rejection indicates how the relevant claim language is met.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Onishi need not teach the motivation of Glodis; Glodis is strong evidence that one of ordinary skill is well aware of the motivation.

It is further argued that there is no teaching in Maurer to close the hole symmetrically; use a pressure greater than 500 Torr; or plug the hole. This is true; this is why the rejection was not based on anticipation (35 USC 102). The rejection clearly indicates why these features would have been obvious. Since applicant has not pointed out any reason why these features would not have been obvious, it is deemed that Applicant agrees that they are obvious.

IT is further argued that the Maurer passage regarding core diameter variation is not the same thing as the symmetrical closing as claimed. Examiner disagrees. If the tube is collapsed asymmetrically, then there would be a variation in diameter. In other words, if the diameter is everywhere constant, then there is complete axial symmetry.

Regarding claims 101-102 it is argued that the claims are patentable – but there is no indication why. Applicant also requests clarification of the rejection of claims 101-102. Claim 101 refers to “any glass layer”. But there is no requirement that there actually be a glass layer “between” those values. Since Col. 7 of Maurer indicates that there is no layer “between” the two positions, the claim is met. In other words, the claim does not require a layer. The term “any” is reasonably interpreted as indicating – if there is any.

Regarding the Berkey rejection it is argued that the Berkey hole is located off the centerline. It is assumed that Applicant is of the position that this does not read on the claim limitation that “the center of the hole positioned along the centerline of the glass object”. Such an interpretation is too narrow. The term “along” (can) means “in a line parallel with the length or direction of” – such as a bank that is “along” the creek. Whereas Berkey’s lines are not coextensive – like Applicant’s – the claims do not require such.

Regarding the degree of symmetry, it is argued that it is very common to have fibers as not as symmetric as possible. The relevance of this is not explained. Unless Examiner is missing something, by analogy of the analysis, one could argue that white cars are not obvious, because it is very common to have non-white cars. Whether

Art Unit: 1731

something is common does not matter much as to whether something else is or isn't obvious. Common asymmetric fibers have little bearing on whether symmetry is also obvious.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

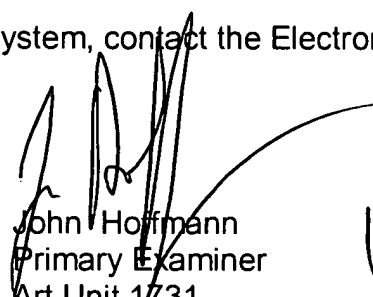
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1731

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John Hoffmann  
Primary Examiner  
Art Unit 1731

1-7-05

jmh